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[CLAIMS]

1. A positive-working lithographic printing plate precursor comprising (i) a grained and anodized aluminum support having a hydrophilic surface and (ii) a heat-sensitive oleophilic coating provided on the hydrophilic surface, wherein said coating is capable of dissolving in an aqueous alkaline developer at a higher dissolution rate in areas of said coating which are exposed to heat or infrared light than in unexposed areas, characterized in that the hydrophilic surface has a surface roughness, expressed as arithmetical mean center-line roughness R_a , which is less than $0.40\text{ }\mu\text{m}$ and comprises more than 3.0 g/m^2 of aluminum oxide.
2. A plate precursor according to claim 1 wherein the hydrophilic surface has a surface roughness, expressed as arithmetical mean center-line roughness R_a , which is less than $0.3\text{ }\mu\text{m}$.
3. A plate precursor according to claim 1 wherein the aluminum support comprises more than 4.0 g/m^2 of aluminum oxide at the hydrophilic surface.
4. A plate precursor according to claim 1 wherein the coating comprises (a) a hydrophobic polymer which is soluble in the developer and (b) a dissolution inhibitor.
5. A plate precursor according to claim 4 wherein the dissolution inhibitor is a water-repellent polymer.
6. A plate precursor according to 5 wherein the water-repellent polymer is
 - a polymer comprising siloxane and/or perfluoroalkyl units; or
 - a block- or graft-copolymer of a poly(alkylene oxide) block and a block comprising siloxane and/or perfluoroalkyl units.
7. A plate precursor according to claim 4 wherein the dissolution inhibitor is an organic compound comprising an aromatic group and a hydrogen bonding site.

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8. A plate precursor according to claim 1 wherein the coating further comprises a dissolution accelerator.